INTER-OFFICE COMMUNICATION

TO Robert H. Maynard, Director DATE 10/26/83

FROM: Ken M. Harsh, Assistant Chief, Emergency Response

SUBJECT: Ashtabula River Basin, Fields Brook Subbasin

Summary: This memo and Appendices detail most of the reasons this writer believes that G+W's $TiCl_4$ Plant located at State and Middle Roads in Ashtabula, Ohio is the major source of PCBs in Fields Brook and the Ashtabula River Basins. It makes no final conclusions as to other contaminants such as chlorinated benzenes, in either Fields Brook or the Ashtabula River. How would you like me to proceed, should I schedule a meeting with the company?

In 1972, I spent my first week with ODH, the predecessor agency to the Ohio EPA, on a special project to monitor Fields Brook in an intensive wastewater survey. During a hiatus in Dayton from 1972-1979, I was not actively involved with, but did maintain an interest in the area. Since then, I have been to the Ashtabula area on the following dates:

3/19/79
4/25/79
9/13/79
9/26/80
6/02/81
7/06/81
7/24/81
7/28/81
2/24/83
4/20/83
5/11/83
6/28/83 (and several other dates)

I have followed with interest the continued reports of contamination of the waters and sediment of Fields Brook and the Ashtabula River with PCBs and other halogenated compounds. I have seen the return of fish to the brook, and some relative improvement to waters of the brook. There are some very unusual compounds there which fall under RCRA, CERCLA, CWA, and TSCA. I confined my investigations in 1983 to finding the source(s) of PCB contamination in the sediment of the Ashtabula River.

One obvious source of contamination has been PCBs from Acme Scrap, which has been under investigation for some time. All oils from Acme contained relatively small amounts of PCBs (less than 1000 ppm).

Heretofore, there has been no systematic attempt to locate the source(s) of PCBs in the Ashtabula River. Table IV, Page 15, Appendix A details PCB contamination of the Ashtabula Harbors Area. The most significant contaminants identified are: Dichlorobenzenes, Hexachlorobutadiene, Hexachlorobenzene, Trichlorobenzene, a Phthalate, and Aroclor 1242. The highest levels of contaminants were found in the backwater eddies and near the confluence of Fields Brook with the Ashtabula River.

Appendix 2 is a map of the Fields Brook area showing 1983 sample survey points. As you can see a number of entities have been eliminated from consideration. No PCBs were found in the sediment above G+W which eliminates:

SMC-Glidden Durkee
IMC, now LCP Chemicals
Olin
General Tire
G+W TiO_2 Plant
Detrex Chemical

No PCBs were found below Diamond Shamrock, or RMI.

Two suspect tributaries at West 31st Street and Strong Brook both were PCB free. The lack of contamination in Strong Brook is significant because that eliminates Conrail, Rockwell and other entities on that storm sewer system.

Sample Data Table I.*

Sample #	Location	Date	PPM	Aroclor Type	Type
ER 453	Cook Road Field Brook	2/24/83	<0.25	-	Sediment
ER 454	Upstream Olin Field Brook	2/24/83	<0.25	-	"
ER 521	Downstream Olin Field Brook	5/12/83	<0.25	-	"
ER 457	Old Detrex Dam Swail	2/24/83	<0.25	-	"
ER 522	Below Old Detrex Outfall F.B.	5/12/83	< 0.25	1248	"
ER 523	G+W Current outfall	5/12/83	180	1248	"
ER 524	G+W old outfall overflow	5/12/83	920	1248	"
ER 524	G+W old outfall overflow	5/12/83	15	1260	"
ER 603	G+W old outfall	6/28/83	330	1248	"
ER 601	G+W debris in trench	6/28/83	620	1248	"
ER 605	G+W debris around pumps	6/28/83	1600	1248	"
ER 604	G+W heater loop	6/28/83	69	1232	Oil
ER 600	G+W drip pan	6/28/83	66	1232	Oil
ER 604	G+W therminol tank	6/28/83	13,000	1248	Oil
ER 456	150 yds. upstream S.R. Field Brook	2/24/83	650	1248	Sediment
ER 455	Acme Scrap outfall, Field Brook	2/24/83	46	1248	"
ER 458	Field Brook 100 yds. downstream State Rd.	2/24/83	< 0.25	-	Sediment 6" deep
ER 459	Field Brook 100 yds. downstream State Rd.	2/24/83	< 0.25	-	Sediment top
ER 460	Field Brook Rt. 11 downstream	2/24/83	<0.25	-	Sediment
ER 525	Trib. to Fields Brook @ Middle Rd. - RMI effluent ditch	5/12/83	< 0.25	-	Sediment
ER 462	Unnamed trib. near W. 31st	2/24/83	< 0.25	-	Sediment
ER 461	Strong Brook near Jack's Marina	2/24/83	< 0.25	-	Sediment

*See Appendix C for sample sheets.

PCB were not found upstream in the Ashtabula River either. The sediment from near the Acme Scrap outfall was not nearly as contaminated as I had expected.

While Acme Scrap contributed some of the PCBs in the Ashtabula River, it did not contribute the majority of PCBs to the Ashtabula River sediment.

Officials of G+W $TiCl_4$ Plant stated that the system used to contain pure Aroclor's, but that these were removed by Monsanto around 1971-1972, and replaced by Therminol fluid. G+W officials also stated that the heat exchangers used to leak large volumes of oil from faculty metal gaskets, which were replaced in 1979 with better gaskets which still leak. The recirculating pumps were diked in 1979, before this copious leakage went into a storm sewer. G+W installed better treatment in the late 70's. Overflows, and bypasses, from sample results, used to allow quantities of PCBs to enter Fields Brook.

G+W installed the heat exchanger system approximately 20 years ago, and replaced one PCB fluid with another 10 years ago, Given the current state of the G+W heat loop/ exchanger system and the copious quantities that have leaked out, and the sample results, I think that G+W, $TiCl_4$ Plant is the major contributor of PCBs in the Ashtabula River. I will not make any final decision regarding the other contaminants, other than to note both the Old Dam Swail area, and the unnamed tributary on State Road contain significant amounts of perchloroethylene, trichloroethylene, and other materials from Detrex Chemicals. Hopefully results from other surveys can yield definite answers as to sources of specific levels at specific chemicals. I would suggest that G+W $TiCl_4$ or SCM, who is purchasing that G+W Plant be called in for a meeting with DHMM, WW, Surveillance, ER, etc., to try and resolve the PCB situation.

Also leading me to believe that the PCBs in the basin are from G+W is Table 1, Appendix F., G+W PCB Inspection Report performed by Versar, Incorporated. That inspection found that the PCBs in the heater loop and in the Therminol tank were Aroclor 1242. G+W is the PCB source.

KH/gc

cc: Kenneth A. Schultz, ER
John Estenik, WW, Toxics
Gary Martin, S&A
Roger Hannahs, DHMM
Steve Tuckerman, NEDO, DHMM
Bob Wyrenski, NEDO, S&A
Robert Indian, ODH
Shel Simon, U.S. EPA